

Sustainable Management: Library Scrap

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Right from the classical era the 'Library' is treated as a holy place, destined to seek knowledge and promote literacy. As library is an accelerating network to access information automatically it accumulates a lot of aged services and practices. It's been a corrigendum to overcome the ancient practices and adapt contemporary practices simultaneously orienting to sustainability goals. Thus, this study emphasizes to achieve sustainable-ecological environment through scrap management of libraries. Mostly managing library scrap involves a thematic procedure of picking up, depositing and disposing of scrap that are outdated to information and comprising of a false statistic. Musing with the approach, this particular study distinctly accentuated the discarding of hard copy debris from libraries into construction sector focusing the stream of Pavement Design and Management serving as the key purpose of the research. SMA (Stone Matrix Asphalt), a gap graded mixture had high content of coarse aggregate which contributed to better stone-to-stone contact and high interlocking structure to pavement. As aggregates do not deform much, it provided better rut resistance and skid resistance. Cement material was used as a filler to fill the voids between the aggregates and bounded with Bitumen as a binding agent which contributed to better durability from premature cracking and raveling. Major potential problem associated with the SMA was drainage and bleeding caused due to improper compaction process as well as temperature accoutrements of Bitumen. To overcome this obstacle, stabilizing additives such as Fibers could be used which stiffen the matrix, thereby reducing the draining and bleeding activities significantly. Various stabilizing agents commonly used in SMA were generally expensive. Hence, in this context it was attempted to use unconventional natural cellulose fiber, namely paper fibers from waste debris of used paper fibers. Samples prepared from these constituents was tested for Marshall Stability Test against durability and resistance to rutting resulting in high stability and low flow value with 18% increment in comparison to SMA without fibers. It can be concluded that fibers of paper waste could be used as stabilizing additive without affecting design criteria of SMA mixture.

Keywords: *Library debris; Marshall Stability Test; Scrap management; Stone matrix asphalt*